



NRESi WEEKLY NEWS

March 17-21, 2014

A newsletter for faculty, staff and students
who participate in the
Natural Resources & Environmental Studies Institute
and NRES Graduate Programs

NRESi NOTES

FROM THE DIRECTOR & RESEARCH MANAGER

Hello everyone,

Two items for this week:

1. The Steering Committee has been exploring opportunities to improve the governance structure of NRESi. As you may know, NRESi's current governance includes three committees: the Steering Committee (internal, nominated by members) which works closely with the Director, a Management Committee (including the Steering Committee and other UNBC representatives), and an Advisory Board (with external representatives, not developed to date).

The Steering Committee proposes to combine the Management Committee and Advisory Board, to create an Advisory Panel. Such a change is intended to facilitate coordination and communication, while also receiving input from both UNBC representatives and the external community and sector representatives. Some of the tasks for this new committee will include: (a) providing updates and information about natural resource sectors, (b) identifying trends, opportunities, needs, and issues that NRESi could address, (c) providing direction to the Institute in response to queries, (d) building possible strategies to address the needs and opportunities, and, (e) enabling new, productive, and relevant avenues of collaboration among the members of NRESi and with wider communities.

A final draft of the proposal will be agreed upon at the next Steering Committee meeting. It will go to the membership for discussion and approval at the AGM, then to the VP (Research) to be forwarded to Senate.

2. Members of the Steering Committee have been working with UNBC librarians to put NRESi's Occasional Papers and Research Extension Notes into the university catalogue. This has been completed and the publications are now available through UNBC's library website. See the item later in the newsletter for more information about how to access these articles. We will also be exploring the opportunity to create a new publications series, Technical Reports. This could be an opportunity to make research project reports public.

Activity roundup:

1. Today is the deadline for Nominations for the Distinguished Scholar and Lifetime Achievement Awards
2. Peace Fish & Wildlife Compensation Program Special Lecture: Friday, March 28th at 3:30pm
 - Today is the last day for graduate students to RSVP for a lunch discussion with Steve
 - NRESi members interested in meeting with Steve McCormick are invited to sign-up on the list at Brenda Janzen's desk
3. NRESi's Annual Lecture: Thursday, April 3rd at 7pm
 - Monday is the last day for graduate students to RSVP for a lunch discussion with Al
 - NRESi members and graduate students interested in presenting a poster are asked to show their interest by: Friday, March 28th
 - NRESi members interested in meeting with Al Gorley are invited to sign-up on the list at Brenda Janzen's desk
4. Undergraduate Thesis Presentation Day: Tuesday, April 8th, starting at 9am
 - Continuing to invite undergraduate thesis supervisors to email me the names of their students in preparation for the presentation day

Have a great weekend!

Leanne Elliott, NRESi Research Manager

REMINDER: Share your information about recent publications, grants, and/or other honors you may have received with others interested in future NRESi issues.

PLEASE EMAIL ALL INFORMATION AND MATERIAL TO: leanne.elliott@unbc.ca

We're on the web at : www.unbc.ca/nres-institute/newsletter



COMING EVENTS

NRESI RESEARCH COLLOQUIUM SERIES

Dr. François Teste

School of Plant Biology
The University of Western Australia



Belowground Plant Interactions: Can Lessons Learned from Conifer Forests and Biodiversity Hotspots Help to Successfully Manage Mixedwoods?

My research program integrates plant and fungal functional ecology in order to better understand plant species coexistence and ecosystem functioning. First, I give some background on ectomycorrhizal fungi (EMF), EMF networks, and root-derived carbon (C) sequestration in soils. Ectomycorrhizal fungi in many temperate and boreal forests drive belowground C and nutrient cycling, and influence plant interactions. Second, I present key results from my PhD on the role of ectomycorrhizal networks in establishment of Douglas-fir after disturbance. Third, I describe some of my current research in Australia on nutrient-mediated plant facilitation, mycorrhizal community ecology during long-term ecosystem development, and plant-soil feedbacks. I then propose research on ectomycorrhizal networks and root-mediated C sequestration in soils of mixedwood forests of Canada, Australia, Argentina, and Chile. Finally, I show how my research program on mycorrhizal fungi and root interactions could help to improve mixedwood management.

Friday, MARCH 14, 2014

3:30 pm - 4:30 pm

Room: 8-166

COMING EVENTS

NRESI ANNUAL PWFCP LECTURE

Peace Fish and Wildlife
Compensation Program Presents:



Dr. Stephen McCormick
USGS, Conte Anadromous Fish Research Center
Turners Falls, MA



Taking it With You When You Go: How the Freshwater Environment Affects Seawater Performance of Salmon

Juvenile undergo morphological, physiological and behavioral changes that are preparatory and adaptive for seawater entry and are collectively known as the parr-smolt transformation. Smolt development is regulated by environmental factors such as photoperiod and temperature and mediated by the neuroendocrine system. A variety of anthropogenic factors can influence smolt development and affect marine survival. Hatchery rearing can affect the size of smolts and the extent and timing of smolt development. Smolt development is reversible, and the period of peak physiological preparedness in salmon smolts is limited by time and temperature. By influencing temperature and the duration of the migratory period, climate change and dams will have negative effects on smolt survival beyond direct lethal impacts. Contaminants acting on developmental physiology or underlying endocrine control mechanisms can also reduce marine survival. Exposure to estrogenic compounds prior to or during smolt development can reduce seawater tolerance and preference. Acid and aluminum exposure can reverse the development of seawater tolerance and reduce adult return rates. These studies indicate that environmental conditions in freshwater can affect physiological development, estuarine and ocean behavior, early seawater survival, and long-term seawater growth and homing, thus having influences on adult returns and long-term population sustainability of salmon.

NOTE ROOM CHANGE: Weldwood Theatre (7-238)

Friday, MARCH 28, 2014

3:30 pm - 4:30 pm

RECEPTION TO FOLLOW

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COMING EVENTS

NRESI ANNUAL LECTURE



Al Gorley
President, Triangle Resources Inc.
& Former Chair, B.C. Forest
Practices Board



Area Based Tenure: If Not TFLs, Then What?

After 100 years of debate, distraction, and disagreement, it's time for a new look at management in BC's forests

In 2013, the British Columbia government introduced legislation to allow conversion of forest licences to tree farm licences. The proposal sparked a negative reaction in the public and the legislation was subsequently withdrawn. This is just the latest episode in a long-standing disagreement about the extent to which public forests should be managed by private companies.

The presentation explores why the province seems to be at an impasse on: forest tenure policy; the potential consequences of inaction; and, the options for change. The presenter proposes development of a new form of forest stewardship agreement that would allow the province to assign rights and delegate responsibilities in a manner that better meets the public's long term sustainability objectives.

THURSDAY, APRIL 3, 2014

7:00 pm - 8:00 pm Canfor Theatre

RECEPTION TO FOLLOW

COMING EVENTS

NRESI RESEARCH COLLOQUIUM SERIES



Al Gorley
President, Triangle Resources Inc. &
Former Chair, B.C. Forest
Practices Board



Why Have a One-Eyed Watchdog?

How independent oversight can improve industries' social licence

Social licence is a term used to describe the general approval society gives to industries operating on public lands. The extent to which it exists depends upon the public's confidence that industries will follow rules, act responsibly, and generate more public benefit than harm.

British Columbia's Forest Practices Board has been reporting publically on companies' compliance with forest practices laws and on government enforcement for nearly two decades. The board's work has helped to maintain public acceptance and marketplace assurance for the forest industry. However, there is no similar independent watchdog for other industries operating on public land. The presenter suggests it may be time for this type of oversight to be applied to all resource sectors.

Friday, APRIL 4, 2014

3:30 pm - 4:30 pm

Room: 8-166

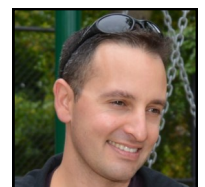
COMING EVENTS

NRESI RESEARCH COLLOQUIUM SERIES

Dr. Michael Russello

Associate Professor,
The University of British Columbia, Okanagan campus

Designing Units of Conservation: Persistent Challenges and Emerging Opportunities



Conservation biology emerged as a crisis discipline, with the goal of applying best available science towards stemming the rate of biodiversity loss. As the resources available for protection do not match the scope of the threats, significant efforts have been directed towards developing a framework for identifying and prioritizing "units of conservation". In some cases, conservation units have been synonymized with various species concepts [e.g. phylogenetic species concept (PSC)]; in other cases, they have been based on recognizing intra-specific variation (e.g. evolutionarily significant units) or other considerations (e.g. designatable units). After over two decades, no consensus has emerged. Therein, the authors advocated an approach to conservation unit delimitation based upon the differential fitness species concept (DFSC) a broader version of the biological species concept that requires "substantial" pre-/post-zygotic reproduction isolation. They further concluded that the PSC is unsuitable in a conservation context due to various concerns related to "excessive splitting". Here, I contend that the criticisms of the PSC are based more on its misapplication than conceptual underpinnings. I further discuss how the approach they recommended lacks the operationalism required for effective biodiversity conservation. Moreover, I argue that the PSC, when soundly applied, provides the optimal balance of theoretical consistency and operationalism of all existing concepts. Lastly, I discuss efforts to integrate adaptive genetic variation into conservation prioritization, and the need for a new framework to inform effective management strategies.

Friday, APRIL 11, 2014

3:30 pm - 4:30 pm

Room: 8-166

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OTHER EVENTS ON CAMPUS

GLOBAL FRIDAYS
ROOM 6-205—6-211
12:00 - 1:30 pm

LNG in British Columbia: A Viable Option or a Hail Mary Pass?

Dr. Michal Moore, University of Calgary
March 21, 2014

All Global Friday presentations will be available to remote participants on Elluminate at:
<http://bit.ly/unbc-globalfriday>

NRESi PUBLICATIONS UPDATE

NRESi's Occasional Paper and Research Extension Note publications are now available through UNBC's library catalogue. They can be found by:

- Entering the publication title in a title search in the classic catalogue (wizard.unbc.ca) or the title into the new catalogue (<http://encore.unbc.ca/iii/encore/?lang=eng>)
- Entering the following into a title search: "Research extension note University of Northern British Columbia" or "Occasional paper series University of Northern British Columbia"
- In the classic catalogue, entering: "occasional paper series university" with NRESi papers the first to display
- In the new catalogue, entering: "occasional paper series university", noticing that on the left column under 'Related Searches' you will be able to access the full set of articles
- All articles may be searched by author
- All articles have been included with an alternate issuing body/publisher: University of Northern British Columbia. Natural Resources and Environmental Studies Institute

TRAVEL / CONFERENCES

Gail Fondahl gave two invited presentations, on "Human Development in the Arctic: The Past Ten Years", at the Arctic Centre of Umeå University (ARCUM), on 17 March 2014 (co-hosted by the Embassy of Canada to Sweden), and on "Monitoring and Tracking Human Development in the Arctic", at 'Arctic Dialogue 2014' conference, in Bodø, Norway, on 19 March 2014

PUBLICATIONS

M.J. Beedle, B. Menounos, **R. Wheate**. (2014). An evaluation of mass-balance methods applied to Castle Creek Glacier, British Columbia, Canada. *Journal of Glaciology*, Vol. 60, No. 220, 2014 doi: 10.3189/2014JoG13J09

Mabit, L., Muesbuger, K., Lurian, A.R., **Owens, P.N.**, Toloza, A., Alewell, C. (2014). Sampling soil and sediment depth profiles at a fine resolution with a new device for determining physical, chemical and biological properties: the Fine Increment Soil Collector (FISC). *Journal of Soils and Sediments*, 14, 630-636.

Rea, R.V., O. Hjeljord, S. Härkönen. 2014. Differential selection of North American and Scandinavian conifer browse by northwestern moose (*Alces alces andersoni*) in winter. *Acta Theriologica* 59: 353-360.

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